Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-30.   (Canceled)

31.   (Currently Amended) An exposure method in which an exposure processing of a specific process is performed to each of ~~a plurality of~~ photosensitive objects in a plurality of lots, ~~said~~the method comprising:

~~a first process in which~~ with respect to a first lot in the specific process,

calculating an estimate ~~values~~ value of positional information of each of a plurality of divided areas on the photosensitive object, which is used to align each of ~~a~~ the plurality of divided areas ~~on a photosensitive object~~ with a predetermined ~~point~~ point, ~~are~~ ~~calculated~~ by a statistical ~~computation,~~ computation using actual measurement values of positional information of a plurality of specific divided areas selected from ~~said~~the plurality of divided areas on ~~said~~the photosensitive ~~object~~ object,

creating correction information used to correct ~~; and~~

~~a second process in which, with respect to a plurality of measurement divided~~ ~~areas on said photosensitive object including at least said plurality of specific divided areas,~~ a non-linear component of positional deviation amount of each of the plurality of divided areas from an individual fiducial position ~~of each of said plurality of measurement divided areas is~~ ~~calculated respectively at predetermined intervals,~~ based on ~~an~~ the actual measurement ~~value~~ values of positional information of ~~each of said~~the plurality of ~~measurement~~ specific divided areas and on ~~each of said~~ the corresponding estimate ~~values,~~ value, and

performing exposure while controlling a position of the photosensitive object based on the estimate value of the positional information of each of the plurality of divided areas and on the correction information: ~~said predetermined intervals being one of~~

~~intervals of a predetermined number of said photosensitive objects and intervals of a~~

~~predetermined period of time;~~ and

with respect to every (K-1) lot of second and subsequent lots in the specific

process, for a plurality of measurement divided areas on the photosensitive object that

includes at least the plurality of specific divided areas,

calculating ~~judgment is made about the necessity of updating~~

~~correction information based on magnitude of one of~~

~~said non-linear component of positional deviation amount calculated of~~

~~each of said plurality of measurement divided areas, and~~

~~a variation amount of the non-linear component, said correction~~

~~information being used to correct~~ a non-linear component of positional deviation amount of

each of the measurement divided areas from ~~an~~ the individual fiducial position ~~of each of said~~

~~plurality of divided areas on said photosensitive object~~ based on an actual measurement value

of positional information of each of the measurement divided areas and on the corresponding

estimate value,

updating the correction information as needed in accordance with a

magnitude of one of the calculated non-linear component of positional deviation amount of

each of the measurement divided areas and a variation amount of the non-linear component,

but not updating the correction information with respect to the remaining lots, and

performing exposure while controlling the position of the

photosensitive object based on the estimate value of positional information of each of the

plurality of divided areas and on the correction information that is latest,

wherein the K is an integer not less than 2.

32.   (Canceled)

33.   (Currently Amended) The exposure method of Claim ~~32~~31, wherein

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in said third process, when the update processing of said updating the correction information is performed,

among said the plurality of divided areas, at least a part of remaining divided areas excluding said plurality of the measurement divided areas are to be new measurement divided areas, and

said the correction information is updated using a non-linear component of positional deviation amount of each of the plurality of divided areas from said the individual fiducial position of each of said plurality of divided areas calculated based on actual measurement values of positional information of all measurement divided areas including the new measurement divided areas and on said the corresponding estimate values.

34.   (Currently Amended) The exposure method of Claim 33 Claim 33, wherein said the new measurement divided areas are determined based on evaluation results of said the non-linear component of positional deviation amount of each of said the plurality of divided areas included in said the correction information before update.

35.   (Currently Amended) The exposure method of Claim 33 Claim 33, wherein said the new measurement divided areas are determined based on evaluation results of one of said the non-linear component of positional deviation amount of each of said plurality of the measurement divided areas calculated with respect to the every (K-1) lot in said second process and a the variation amount of the non-linear component.

36.   (Canceled)

37.   (Currently Amended) The exposure method of Claim 31 Claim 31, wherein as said the plurality of measurement divided areas on said the photosensitive object, only said the plurality of specific divided areas can be designated.

38.   (Currently Amended) The exposure method of Claim 31 Claim 31, wherein

as ~~said~~the plurality of measurement divided areas on ~~said~~the photosensitive object, at least a part of remaining divided areas can be designated in addition to ~~said~~the plurality of specific divided areas.

39.   (Currently Amended) The exposure method of ~~Claim 31~~ Claim 31, wherein ~~said~~the correction information is one of a correction map and a correction function.

40-41. (Canceled)

42.   (Currently Amended) The exposure method of Claim ~~41~~ 35, wherein

the evaluation of ~~said~~the non-linear component of positional deviation amount of each of ~~said plurality of~~ the measurement divided areas is performed, taking into consideration at least one of magnitude and a dispersion degree of ~~said~~the non-linear component of positional deviation amount of each of ~~said plurality of~~ the measurement divided areas in ~~said~~the correction information before update.

43.   (Currently Amended) The exposure method of Claim ~~41~~ 35, wherein

the evaluation of ~~said~~the non-linear component of positional deviation amount of each of ~~said plurality of~~ the measurement divided areas is ~~performed,~~ using a predetermined evaluation function.

44.   (Currently Amended) The exposure method of Claim ~~41~~ 35, wherein

~~said~~the plurality of divided areas on ~~said~~the photosensitive object are grouped into a plurality of blocks in advance, and

the evaluation of ~~said~~the non-linear component of positional deviation amount of each of ~~said plurality of~~ the measurement divided areas is performed with respect to each block.

45-48. (Canceled)

49.   (Currently Amended) A device manufacturing method including a lithographic process wherein

in ~~said~~the lithographic process, an exposure processing of a specific process is continuously or intermittently performed to each of ~~a plurality of~~photosensitive objects in a plurality of lots by using the exposure method of Claim ~~41~~ 31.

50.   (Currently Amended)   An exposure apparatus that performs an exposure processing of a specific process to each of ~~a plurality of~~photosensitive objects in a plurality of lots, ~~said~~the apparatus comprising:

a moving body that holds a photosensitive object;

a detection system that detects actual measurement values of positional information of any divided areas among a plurality of divided areas on ~~said~~the photosensitive object held on ~~said~~the moving body;

a computation ~~unit~~device that calculates an estimate ~~values~~value of positional information of each of the plurality of divided areas, which is used to align each of ~~said~~the plurality of divided areas with a predetermined ~~point~~point, by a statistical ~~computation,~~ computation using actual measurement values of positional information of a plurality of specific divided areas among ~~said~~the plurality of divided areas on ~~said~~the photosensitive object detected by ~~said~~the detection system;

a ~~judgment unit~~creating device that, with respect to a first lot in the specific process, ~~a plurality of measurement divided areas on said photosensitive object including at least said plurality of specific divided areas,~~ creates correction information used to correct ~~calculates~~a non-linear component of positional deviation amount of each of the plurality of divided areas from an individual fiducial position ~~of each of said plurality of measurement divided areas respectively at predetermined intervals,~~based on ~~an~~the actual measurement ~~value~~values of positional information of ~~each of said~~ the plurality of ~~measurement~~specific divided areas among the plurality of divided areas on the photosensitive object detected by

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~~said~~the detection system and ~~each of said~~on the corresponding estimate ~~values~~of positional

information calculated by ~~said~~the computation ~~unit~~device:

~~, said intervals are one of intervals of a predetermined number of said photosensitive objects~~

~~and intervals of a predetermined period of time, and~~

~~_____ judges the necessity of updating correction information based on magnitude of~~

~~one of said non-linear component of positional deviation amount calculated for each of said~~

~~plurality of measurement divided areas and a variation amount of the non-linear component,~~

~~said correction information being used to correct a non-linear component of positional~~

~~deviation amount from an individual fiducial position of each of said plurality of divided~~

~~areas on said photosensitive object;~~

an updating ~~unit~~device that, with respect to every (K-1) lot of second and

subsequent lots in the specific process, for a plurality of measurement divided areas on the

photosensitive object that includes at least the plurality of specific divided areas, ~~performs a~~

~~processing to update said correction information when said judgment unit judges that update~~

~~is necessary; and~~

calculates a non-linear component of positional deviation amount of

each of the measurement divided areas from an individual fiducial position based on an actual

measurement value of positional information of each of the measurement divided areas

detected by the detection device and on the corresponding estimate value, and

updates the correction information as needed in accordance with a

magnitude of one of the calculated non-linear component of positional deviation amount of

each of the measurement divided areas and a variation amount of the non-linear component,

but does not update the correction information with respect to the remaining lots, wherein the

K is an integer not less than 2; and

a control ~~unit~~device that controls a position of ~~said~~the photosensitive object

via ~~said~~the moving body based on the estimate value of positional information of each of

~~said~~the plurality of divided areas and ~~said~~on the correction information that is latest, when

exposing each of ~~said~~the plurality of divided areas.

51.   (Currently Amended) The exposure apparatus of ~~Claim 50~~ Claim 50, wherein

~~said~~the updating ~~unit~~device comprises:

a determining ~~unit~~device that determines at least a part of remaining

divided areas excluding ~~said plurality of~~ the measurement divided areas among ~~said~~the

plurality of divided areas on ~~said~~the photosensitive object, as new measurement divided

areas; and

a calculating ~~unit~~device that calculates ~~a~~ the non-linear component of

positional deviation amount of each of the plurality of divided areas on the photosensitive

object from ~~said~~the individual fiducial ~~position of each of said plurality of divided areas on~~

~~said photosensitive object~~ position, as new correction information, based on actual

measurement values of positional information of all measurement divided areas including

actual measurement values of positional information of the new measurement divided areas

detected by ~~said~~the detection system and on ~~said~~the corresponding estimate ~~values~~ value.

52.   (Currently Amended) The exposure apparatus of ~~Claim 51~~ Claim 51, wherein

~~said~~the determining ~~unit~~device determines ~~said~~the new measurement divided

areas based on evaluation results of one of ~~said~~the non-linear component of positional

deviation amount of each of ~~said plurality of~~ the measurement divided areas calculated by

~~said judgment unit~~ the updating device and ~~a~~ the variation amount of the non-linear

component.

53.   (Canceled)

54.   (Currently Amended) The exposure apparatus of Claim 50, wherein

a first mode in which only ~~said~~the plurality of specific divided areas are

designated as ~~said~~the plurality of measurement divided areas on ~~said~~the photosensitive object,

and

a second mode in which ~~said~~the plurality of specific divided areas and at least

a part of remaining divided areas are designated as ~~said~~the plurality of measurement divided

areas on ~~said~~the photosensitive object are settable.

55.   (Currently Amended) The exposure apparatus of ~~Claim 50~~Claim 50, wherein

~~said~~the correction information is one of a correction map and a correction

function.

56.   (Currently Amended) ~~An~~The exposure apparatus of Claim 51, ~~that performs~~

~~an exposure processing of a specific process to each of a plurality of photosensitive objects,~~

~~said apparatus~~further comprising:

~~a moving body that holds a photosensitive object;~~

~~a detection system that detects actual measurement values of positional~~

~~information of any divided areas on said photosensitive object held on said moving body;~~

~~a computation unit that calculates estimate values of positional information~~

~~used to align each of a plurality of divided areas with a predetermined point by a statistical~~

~~computation, using actual measurement values of positional information of a plurality of~~

~~specific divided areas among said plurality of divided areas on said photosensitive object~~

~~detected by said detection system;~~

an evaluation ~~unit~~device that, with respect to a plurality of measurement

divided areas on ~~said~~the photosensitive object including at least ~~said~~the plurality of specific

divided areas, evaluates a non-linear component of positional deviation amount of each of the

measurement divided areas from an individual fiducial position ~~of each of said plurality of~~

~~measurement divided areas at predetermined intervals,~~based on ~~an~~the actual measurement

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value of positional information of each of ~~said plurality of~~ the measurement divided areas detected by ~~said~~the detection system and ~~each of said~~on the estimate ~~values~~ value of positional information calculated by ~~said~~the computation device. ~~unit, said predetermined intervals being one of intervals of a predetermined number of said photosensitive objects and intervals of a predetermined period of time,~~ and determines at least one of the number of new measurement divided areas to be added and an arrangement thereof, based on the evaluation ~~results;~~results.

~~_____ an updating unit that updates correction information related to a non-linear component of positional deviation amount from an individual fiducial position of each of said plurality of divided areas on said photosensitive object, using said non-linear component of positional deviation amount of each of said plurality of divided areas on said photosensitive object, said non-linear component of positional deviation amount being calculated based on actual measurement values of positional information of all measurement divided areas including actual measurement values of positional information of the new measurement divided areas detected by said detection system and on said estimate values; and~~

~~_____ a control unit that controls a position of said photosensitive object via said moving body based on the estimate value of positional information of each of said plurality of divided areas calculated by said computation unit and said correction information that is latest, when exposing each of said plurality of divided areas.~~

57. (Currently Amended) The exposure apparatus of ~~Claim 56~~ Claim 56. wherein ~~said~~the plurality of divided areas on ~~said~~the photosensitive object are grouped into a plurality of blocks in advance, and

~~said~~the evaluation ~~unit~~device performs the evaluation of ~~said~~the non-linear component of positional deviation amount of each of ~~said plurality of~~the measurement divided areas with respect to each block.

58-60. (Canceled)

61. (Currently Amended) A computer readable medium that stores a program that makes a computer for control of an exposure apparatus that performs an exposure processing of a specific process to each of ~~a plurality of~~ photosensitive objects in a plurality of lots execute a predetermined processing, ~~said~~the program making ~~said~~the computer execute:

a procedure ~~in which~~ of, with respect to a first lot in the specific process, calculating an estimate ~~values~~value of positional information of each of a plurality of divided areas on a photosensitive object, which is used to align each of ~~a~~the plurality of divided areas ~~on a photosensitive object~~ with a predetermined ~~point~~ point, ~~are calculated~~ by a statistical computation using actual measurement values of positional information of a plurality of specific divided areas selected from ~~said~~the plurality of divided areas on ~~said~~the photosensitive ~~object; and~~object,

creating correction information used to correct ~~a procedure in which, with respect to a plurality of measurement divided areas on said photosensitive object including at least said plurality of specific divided areas,~~ a non-linear component of positional deviation amount of each of the plurality of divided areas from an individual fiducial position ~~of each of said plurality of measurement divided areas is calculated respectively at predetermined intervals,~~based on ~~an~~the actual measurement ~~value~~values of positional information of ~~each of said~~the plurality of ~~measurement~~specific divided areas and on ~~each of said~~the estimate ~~values, said predetermined intervals being one of intervals of a predetermined number of~~ ~~said~~the photosensitive ~~objects and intervals of a predetermined period of time;~~value, and

performing exposure while controlling a position of the photosensitive object based on the estimate value of positional information of each of the plurality of divided areas and on the correction information; and

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a procedure of, with respect to every (K-1) lot of second and subsequent lots in the specific process, for a plurality of measurement divided areas on the photosensitive object that include at least the plurality of specific divided areas,

calculating a non-linear component of positional deviation amount of each of the measurement divided areas from an individual fiducial position based on an actual measurement value of positional information of each of the measurement divided areas and on the estimate value,

updating the correction information as needed in accordance with a magnitude of one of the calculated non-linear component of positional deviation amount of each of the measurement divided areas and a variation amount of the non-linear component, but not updating the correction information with respect to the remaining lots, and

performing exposure while controlling the position of the photosensitive object based on the estimate value of positional information of each of the plurality of divided areas and on the correction information that is latest,

wherein the K is an integer not less than 2.

~~judgment is made about the necessity of updating correction information based on magnitude of one of said non-linear component of positional deviation amount calculated for each of said plurality of measurement divided areas and a variation amount of the non-linear component, said correction information being used to correct a non-linear component of positional deviation amount from an individual fiducial position of each of said plurality of divided areas on said photosensitive object.~~

62.   (Canceled)